

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012227**Date Inspected:** 18-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Mike Johnson, Steve McConnell, Jesse Prescott			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	SAS OBG 1E/2E	

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process fit up of the 1E/2E-D and 1E/2E-A. The following observations were made.

- 1.) 1E/2E-D QA preliminary VT and installation of the temporary steel backing bar
- 2.) 1E/2E-A- Installation of permanent steel backing bar

1E/2E-D

The QA Inspector randomly observed the above identified weld joint was ready for the steel backing bar to be installed. Prior to the steel backing bar being installed, the QA Inspector randomly performed an overall preliminary inspection of the fit up and root gap. The QA Inspector randomly observed the total included bevel angle appeared range between 25° and 18°. The QA Inspector randomly observed the root opening appeared to be 16mm/17mm near line E3 and 18mm/19mm near line E4. The QA Inspector randomly observed the widest point of the above identified complete joint penetration (CJP) weld joint appeared to be approximately 21mm. The QA Inspector continued to perform a random preliminary visual inspection of the off set between 1E-D and 2E-D. The QA Inspector randomly observed the off set averages approximately 4mm and is as much as 10mm in one near the E3 diaphragm. It is noted, the dimensions noted above were all measured by the QA Inspector prior to any fitting tasks being performed.

1E/2E-D Steel Backing

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The QA Inspector randomly observed the ABF welder identified as Rory Hogan and helper begin installing the strong backs or “fit up gear” under the above identified weld joint. The QA Inspector randomly observed the ABF helper perform grinding tasks in all of the areas that will have the “key plates” or strong backs welded to the under side of plate “D”. The QA Inspector noted the Smith Emery (SE) Quality Control (QC) Inspector Jesse Cayab and Tom Pasqualone on site to monitor and record the in process temporary welding. After all of the paint had been removed where the “nuts” or fasteners for the fit up gear will be installed, the ABF welder began preheating the areas to be welded. The QA Inspector noted the ABF welder to be utilizing shielded metal arc welding (SMAW) E7018 low hydrogen electrodes. The QA Inspector observed the QC Inspector set the SMAW machine with 125 Amps. The QA Inspector randomly verified the minimum required preheat of 70°F was achieved prior to welding. The QA Inspector noted the SMAW parameters appeared to be in general compliance with ABF WPS-D1. 5-F1200A. The QA Inspector observed the installation of the fit up gear through completion. It was observed the nuts were welded 6” from either side of the bevel and 12” apart from each other (pictured below). It was observed two nuts welded with the above noted spacing every 24” throughout the length of the joint. The QC Inspector Jesse Cayab informed the QA Inspector a map of all temporary attachments will be kept for future removal and inspection.

After all of the fit up gear, nuts were welded into place the QA Inspector observed the ABF welder install the backing bar. The QA Inspector randomly observed Mr. Hogan utilize the Key plates with pins or spikes hammered into place to hold the steel backing, and to correct the off set of the two “D” members. It was noted additional spikes or pins were utilized in areas of the joint which required more off set correction. The QA Inspector observed the ABF welder and helper spent the remainder of the shift installing the steel backing and fitting up the above identified complete joint penetration (CJP) weld joint.

1E/2E-A steel backing

The QA Inspector randomly observed the ABF welders Mitch Sittinger and Jordan Hazelaar along with additional ABF helpers fitting up the steel backing for the above identified weld joint. It was noted the steel backing for 1E/2E-A will remain in place after welding is completed (pictured below). The QA Inspector noted the steel backing being installed was previously welded and ultrasonically tested (UT) by SE QC and randomly verified by Caltrans QA. The QA Inspector randomly observed the ABF personnel performing the fit up tasks for the remainder of the shift.



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Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick
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Quality Assurance Inspector

Reviewed By:	Levell,Bill
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QA Reviewer
